For Lecture's in **B. Tech. Civil Engineering IIIrd Semester**

Course No.		Title of the Course		Course Structure	
CE-201A		**Introduction to Solid Mechanics**	**L-T-P**		**3-0-0**
COURSE OUTCOMES (CO)					
CO1	Determine the strength parameters of the materials solve principal stress and principal plane problems				
CO2	Apply various methods of analysis of plane truss				
CO3	Determine shear force, bending moment, bending and shear stress distribution analyze members subjected to torsion				
UNIT NO`		**Topics To Be Covered**		**Lecture Nos**	
		Introduction to CE201A Introduction to Solid Mechanics and Equilibrium of Forces		1.	
		Centre of Gravity		2.	
		Theorem of moment of Inertia		3.	
I		Different types of stresses		4.	
		Stress and Strain Curves		5.	
		Elongation of Tapered, cylindrical sections, Thermal Stresses		6.	
		Elastic constants, complimentary shear stress, hardness, impact strength		7.	
		Complex Stresses		8.	
		Mohr's Cicle, Principle Stresses		9.	
II		Definition of Shear force and Bending Moment, Different Types of Beams		10.	
		Shear Force and Bending Moment Diagrams		11.	
		Shear Force and Bending Moment Diagrams		12.	
		Theory of Pure Bending		13.	
		Theory of Pure Bending		14.	
III		Deflection of Beams Double Integration Method		15.	
		Double Integration Method		16.	
		Moment Area Method		17.	
		Conjugate Beam Method		18.	
		Unit Load Method		19.	
I		Torsion		20.	
		Theory of Columns		21.	
		Theory of Columns		22.	
		Thin Cylindrical Shells		23.	
		Thin Cylindrical Shells		24.	
II		Three Hinged Arches		25.	
		Three Hinged Arches		26.	
IV		Analysis of Perfect Frames		27.	
		Analysis of Perfect Frames		28.	
		Analysis of Perfect Frames		29.	
		Analysis of Perfect Frames		30.	

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